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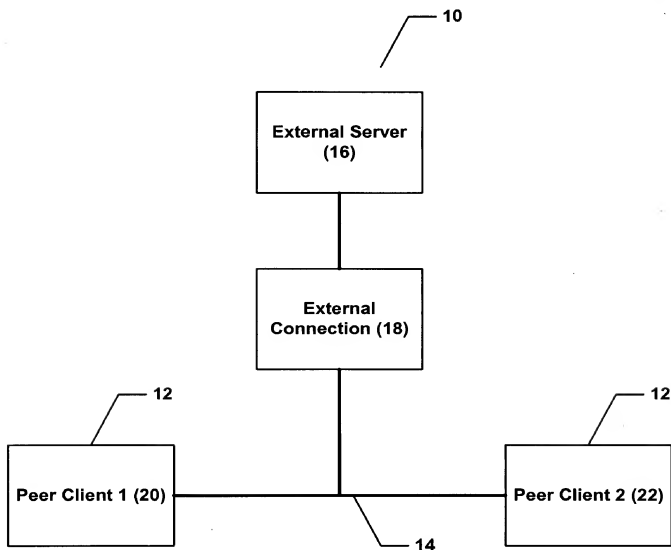
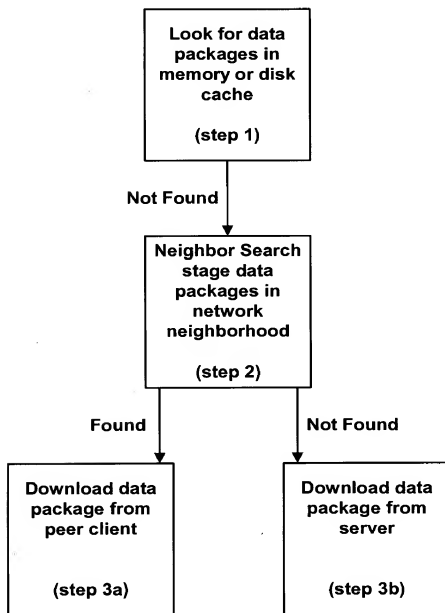
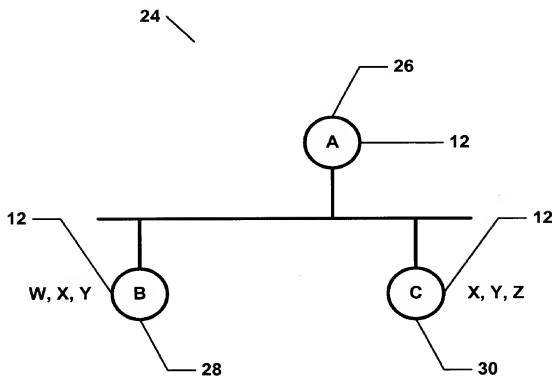


FIGURE 1A



**FIGURE 1B: Downloading Process**



**FIGURE 2A: Request-response example**

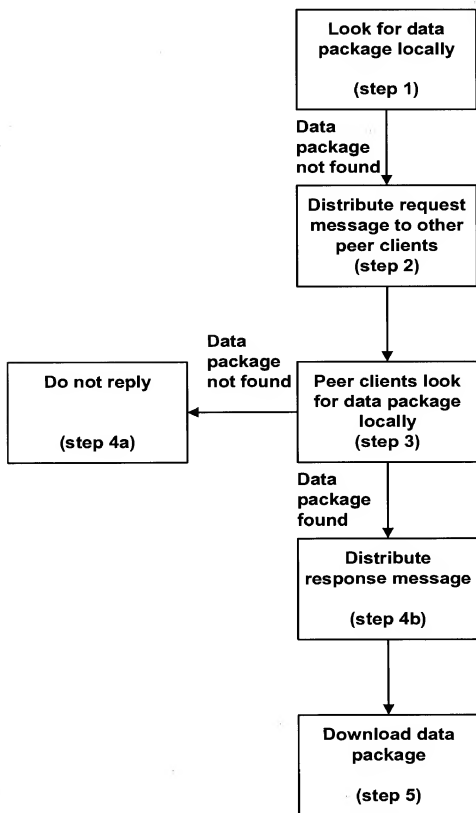


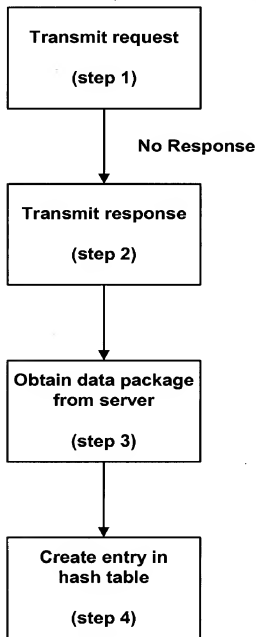
FIGURE 2B

|            |                           |
|------------|---------------------------|
| <b>PVN</b> | <b>Digest 1, Digest 2</b> |
|------------|---------------------------|

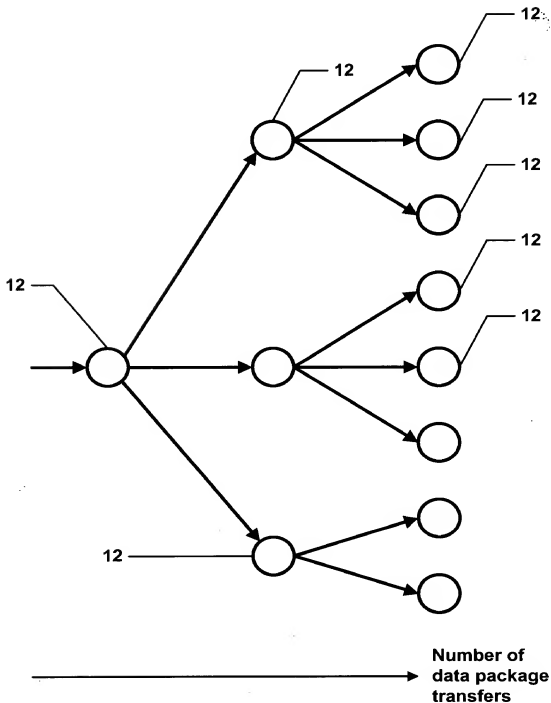
**FIGURE 2C: Request message**

|            |                                        |                 |
|------------|----------------------------------------|-----------------|
| <b>PVN</b> | <b>Digest 1, Digest 2, ...Digest N</b> | <b>TCP Port</b> |
|------------|----------------------------------------|-----------------|

**FIGURE 2D: Response message**



**FIGURE 2E**



**FIGURE 3: Tree-shaped data-flow (optimal)**

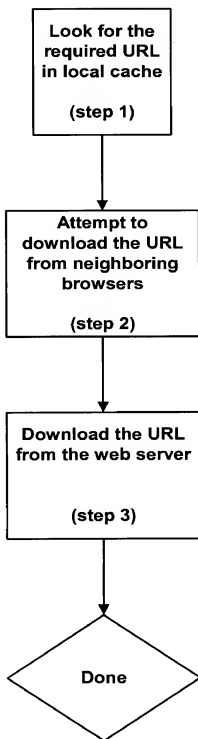


FIGURE 4



|            |            |                                                              |
|------------|------------|--------------------------------------------------------------|
| <b>PVN</b> | <b>REQ</b> | <b>URL<sub>1</sub>, URL<sub>2</sub>, URL<sub>3</sub>,...</b> |
|------------|------------|--------------------------------------------------------------|

**FIGURE 5A**

|            |            |                                                              |
|------------|------------|--------------------------------------------------------------|
| <b>PVN</b> | <b>RSP</b> | <b>URL<sub>1</sub>, URL<sub>2</sub>, URL<sub>3</sub>,...</b> |
|------------|------------|--------------------------------------------------------------|

**FIGURE 5B**